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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,167	07/30/2003	James Albert Matthews	10030278-1	1888
57299	7590	11/02/2007		
Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525			EXAMINER YAM, STEPHEN K	
			ART UNIT 2878	PAPER NUMBER
			NOTIFICATION DATE 11/02/2007	DELIVERY MODE. ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/632,167  
Filing Date: July 30, 2003  
Appellant(s): MATTHEWS, JAMES ALBERT

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John Pessetto  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed June 18, 2007 appealing from the Office action mailed January 23, 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,879,014	WAGNER	4-2005
6,452,669	MORRIS et al.	9-2002

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

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Claims 1, 5, 6, 10, 11, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. US Patent No. 6,879,014 in view of Morris, Jr. et al. US Patent No. 6,452,669.

Regarding Claim 1, Wagner et al. teach (see Fig. 1, 4 and 8) an integrated optical apparatus (100) configured to detect light transmitted from a light source (402) external to the integrated optical apparatus (see Fig. 4), the integrated optical apparatus comprising a substrate (106) (see Fig. 8), and an optical element including a plurality of stacked layers (101-103) of optically transmissive material (see Fig. 1 and Col. 8, lines 39-40) formed on the substrate (see Fig. 8), wherein at least one of the layers (101-103) of optically transmissive material is a sensing element (see Col. 8, lines 30-38) having a resistance responsive to incident light (as a photodiode operating in reverse bias (see Col. 9, lines 38-43) has a resistance proportional to incident light). Wagner et al. do not teach the apparatus diffracting light with the optical element as a diffractive optical element. Morris, Jr. et al. teach (see Fig. 4) a similar apparatus with a diffractive optical element (see Col. 2, lines 63-67) including a plurality of stacked layers (20, 30) of optically transmissive material, wherein at least one of the layers (20) of optically transmissive material (see Col. 2, lines 55-63) as a sensing element (See Col. 3, lines 1-9) having a resistance responsive to incident light (since the photodiode is operating in reverse bias - see Col. 3, lines 1-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the optical element as a diffractive optical element for the optical apparatus to diffract light, as taught by Morris, Jr. et al., in the apparatus of Wagner et al., to provide a desired interference effect for optimal light transmission and propagation.

Regarding Claim 5, Wagner et al. teach the sensing element configured to provide (using 104, 105) a response to a control circuit, external to the integrated optical apparatus (see Col. 12,

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lines 22-23 and Col. 16, lines 25-26 and Col. 19, lines 30-33, 57-60), for measuring the response of the sensing element to incident light and for controlling the light source (see Col. 19, lines 25-33).

Regarding Claim 6, Wagner et al. teach the light source as a laser (see Col. 10, lines 8-11).

Regarding Claim 10, Wagner et al. teach a first (104) and second (105) contact on the sensing element for measuring the resistance of the sensing element (through operation of the photodiode in reverse bias).

Regarding Claim 11, Wagner et al. teach the optically transmissive material including a semiconductor (see Col. 8, lines 30-35).

Regarding Claim 19, Wagner et al. teach the temperature of the sensing element as responsive to light (since all objects increase temperature to some degree when impacted by laser energy).

Regarding Claim 20, Wagner et al. teach at least two of the layers (101, 103) of optically transmissive material are sensing elements (see Col. 8, lines 35-36) having resistances responsive to incident light (through operation of the photodiode in reverse bias).

Regarding Claim 21, Wagner et al. teach at least two adjacent layers (101, 103) of optically transmissive material are sensing elements (see Col. 8, lines 35-36) having resistances responsive to incident light (through operation of the photodiode in reverse bias).

Regarding Claim 22, Wagner et al. teach at least two non-adjacent layers (101, 102) of optically transmissive material are sensing elements (see Col. 8, lines 35-36) having resistances responsive to incident light (through operation of the photodiode in reverse bias).

Regarding Claim 23, Wagner et al. teach all of the layers (101-103) of optically transmissive material are sensing elements (see Col. 8, lines 35-36) having resistances responsive to incident light (through operation of the photodiode in reverse bias).

#### **(10) Response to Argument**

Regarding Claim 1, Appellant argues that the Examiner "has not referred to any prior art in support of his position that a motivation or suggestion to combine exists but, instead, apparently expects his unsupported conclusory statement to suffice. Such an unsupported statement, however, cannot constitute the evidence required to establish existence of a motivation or suggestion to combine" (Page 9 of Appeal Brief) and "it appears that Examiner's proposed combination of Wagner et al. and Morris, Jr. et al. is based solely on hindsight derived from appellants' specification." (Page 10 of Appeal Brief). Examiner asserts that both Wagner et al. and Morris, Jr. et al. are directed towards power output monitors for a vertical cavity surface emitting laser system, with both inventions placing a transparent photo-sensing element between the laser emitter and the desired destination of the laser output. Furthermore, Wagner et al. also discloses several embodiments including Fig. 4 which discloses the laser 402 outputting a laser beam 401 to a destination 403 with a power monitor 100 placed in between the laser and the destination. In Fig. 7, Wagner et al. further teaches an embodiment with a lens 702 to direct the laser output to the destination 403. Thus, Wagner et al. discloses placing optical elements in the path of the laser output to provide "optimal light transmission and propagation" seen in Fig. 7. Although Wagner et al. do not disclose the optical element as a diffractive element, that deficiency is remedied by the teachings of Morris, Jr. et al. who discloses a diffractive optical

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element (see Fig. 4) for a particular beam output pattern. Thus, Examiner asserts that sufficient motivation exists in both the knowledge of persons of ordinary skill in the art and in the Wagner et al. and Morris, Jr. et al. references to provide a diffractive effects, and thus, Claim 1 is properly rejected under 35 U.S.C. § 103(a).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Claims 5, 6, 10, 11, and 19-23 depend from rejected Claim 1 and are also properly rejected for the same reasons above.

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Stephen Yam

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